AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 2, line 3, as follows:

The emitted light signals are collected by a photodiode, which processes the light signals into photocurrents. The photocurrents can be processed to [[the]] measure a modulation ratio of the red, or near red signal, to the infrared, or near infrared signal. The modulation ratio then corresponds to arterial oxygen saturation ($Sa0_2$).

Please amend the paragraph beginning on page 2, line 7, as follows:

To properly calculate $Sa0_2$ levels, the wavelength of the LED's must be precisely known. One approach to transmit LED wavelength information utilizes a resistor with the pulse oximeter probe that has a value indicative of the wavelength of the LED. The resistor value of the LED is then used to code the transmission LEDs. The oximeter can read the resistor value and utilize the value of the resistor to calculate the $Sa0_2$ value. An example of a system utilizing this approach can be found in U.S. Patent No.[[,]] 4,621,643, assigned to Nellcor, Inc. Although this approach allows for increased tuning, the approach can become deficient in that it typically requires separate electrical connections to read the resistor value. Because each separate electrical connection increases the overall cost of the unit, this approach is not cost effective.

Please amend the paragraph beginning on page 5, line 10, as follows:

In an illustrative embodiment of the present invention, the medical device of the present invention is embodied as a pulse oximeter. FIGURE 1 is a block diagram illustrative of a pulse oximeter system 100 utilized in accordance with the present invention. The pulse oximeter system includes a medium 102 for measuring arterial oxygen saturation such as a finger or earlobe. The pulse oximeter system 100 also includes an LED signal generator 104 that can include one or more LEDs for transmitting light. The pulse oximeter system 100 further includes a photodetector signal generator 104 for absorbing the light from the LED signal generator 104 as it passes through the medium 102 and for generating a signal corresponding to the detected light. The pulse oximeter system 100 also includes an oximeter processing system 108 for

controlling the generation of the light from the LED signal generator 104 and for processing the signals generated by photodetector signal generator 106. One skilled in the present invention will appreciate that the medium [[100]] 102 will absorb and scatter a particular wavelength of light depending on the characteristics of the medium. Based on this principle, the oximeter processing system 108 can then calculate the arterial oxygen saturation of the tested medium. The function of pulse oximeters is well known in the present art and will not be described in greater detail.

Please amend the paragraph beginning on page 5, line 27, as follows:

With reference now to FIGURE 2, an illustrative circuit 200 of a pulse oximeter system 100 (FIGURE 100) for implementing the information transmitting function of the present invention will be described. The circuit 200 includes an LED signal generator 104 that includes two parallel LEDs 202, 204. In an illustrative embodiment of the present invention, each LED 202, 204 corresponds to a different wavelength of light. For example, one LED may correspond to a wavelength in the red, or near red, light on the electromagnetic spectrum while another LED may correspond to a wavelength in the infrared, or near infrared, light on the electromagnetic spectrum. The circuit 200 also includes a photodetector signal generator [[104]] 106 that includes a photodetector 206 that receives light generated by the LEDs 202, 204 and generates a photocurrent corresponding to the detected light. The photodetector 206 and the LEDs 202, 204 are connected electrically in parallel. Further, as illustrated in FIGURE 2, a schottkey diode 208 is also connected in parallel to the LEDs 202, 204 and the photodetector 206.

Please amend the paragraph beginning on page 6, line 8, as follows:

The circuit 200 also includes an information transmission component 210 in which information may be stored and read. In an illustrative embodiment of the present invention, the information transmission component 210 may be embodied in a permanent storage media such that the information cannot be modified or additional information may not be stored in the

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS[PLLC]
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

component. Additionally, all, or a portion, of the information transmission component 210 may be embodied in a writable, permanent storage media such that some information may be added to the component. Alternatively, [[he]] <u>the</u> information transmission component 210 may be embodied in a writable, nonpermanent storage media such that some or all of the information may be overwritten. An example of an information storage component 210 can include an identification chip, such as the Dallas Semiconductor DS 1990 or DS 2401. Another example of an information storage component 210 can include electrical components, such as a resistor, whose characteristics have a value that corresponds to information. For example, the resistive value of a resistor may correspond to the precise wavelength of an LED 202, 204. As illustrated in FIGURE 2, the information transmission component is configured in parallel to the photodetector 206 and does not require additional wiring to be connected to the circuit 200.

Please amend the paragraph beginning on page 6, line 25, as follows:

The circuit 200 also includes an oximeter processing system 108 that is utilized to drive the LED signal generator [[102]] <u>104</u> and process signals coming from the photodetector signal generator [[104]] <u>106</u>. The oximeter processing system 108 also generates a signal that can cause the information transmission component 210 to transmit information to be processed by the oximeter processing system. The oximeter processing system 108 includes two sets of switches 212, 214 which are connected to LED drivers for causing the LEDs 202, 204 to generate light. The oximeter processing system 108 also includes a filter 216 for processing the signal from the photodetector 206, which is further transmitted to a microprocessor (not shown) for determining the arterial oxygen saturation of the medium 102. One skilled in the relevant art will appreciate that these components are well known for use in the function of pulse oximeters and will not be described in greater detail. The oximeter processing system 108 also includes a separate voltage source 218 for driving the information transmission component 210. In an illustrative embodiment of the present invention, the separate voltage source 218 provides a voltage less than the turn on voltage for the LEDs 202, 204. However, although the voltage

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS[PLLC]
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

source 218 is illustrated as separate, one skilled in the relevant art will appreciate that the voltage source 218 may be integrated with other components, such as switches 212 or 214.

Please amend the paragraph beginning on page 7, line 11, as follows:

In practice, to read the information from the identification transmission component 210, switches 212, 214 are opened. With the branch corresponding to the LED open, the voltage from the separate voltage source 218 passes through schottkey diode 208 and to the information processing component 210. The resulting voltage drop across the resistor can be read at 220, which corresponds to the value generating by the information transmission component 210. The value detected at 220 can be transmitted to a microprocessor (not shown) for further processing. For example, if the information transmission component 210 transmits information regarding the precise wavelength information for one or more LEDs 202, 204, the processor can utilize the wavelength information to calculate the arterial oxygen saturation level of the medium [[100]] 102. Alternatively, if the information transmission component 210 transmits information regarding a certificate of authenticity, the processor can use the information to verify operation and/or register the component with the manufacturer.

Please amend the paragraph beginning on page 7, line 24, as follows:

With reference now to FIGURE 3, an alternative illustrative circuit 300 of a pulse oximeter system 100 (FIGURE [[100]] 1) for implementing the information transmitting function of the present invention will be described. The circuit 300 includes an LED signal generator 104 that includes two parallel LEDs 302, 304. Similar to above-described circuit 200 (FIGURE 2), each LED 302, 304 corresponds to a different wavelength of light. For example, one LED may correspond to a wavelength in the red, or near red, light on the electromagnetic spectrum while another LED may correspond to a wavelength in the infrared, or near infrared, light on the electromagnetic spectrum. The circuit 300 also includes a photodetector signal generator [[104]] 106 that includes a photodetector 306 that receives light generated by the

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS[PLLC]
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

LEDs 302, 304 and generates a photocurrent corresponding to the detected light. ~~The photodetector 306 and the LEDs 302, 304 are connected electrically in parallel.~~

Please amend the paragraph beginning on page 8, line 4, as follows:

The circuit 300 also includes an information transmission component 310 in which information may be stored and read. Similar to the information transmission component 210 (FIGURE 2), the information transmission component 310 may be embodied in a permanent storage media such that the information cannot be modified or additional information may not be stored in the component. Additionally, all, or a portion, of the information transmission component 310 may be embodied in a writable, permanent storage media such that some information may be added to the component. Alternatively, he information transmission component 310 may be embodied in a writable, nonpermanent storage media such that some or all of the information may be overwritten. An example of an information transmission component 310 can include an identification chip, such as the Dallas Semiconductor DS 1990 or DS 2401. As illustrated in FIGURE 3, the information transmission component is ~~configured in parallel to the photodetector 306~~ <u>connected to the anode of photodetector 306, the cathode of LED 302, and the anode of LED 304,</u> and does not require additional wiring to be connected to the circuit 300.

Please amend the paragraph beginning on page 8, line 18, as follows:

The circuit 300 also includes an oximeter processing system 108 that is utilized to drive the LED signal generator 102 and process signals coming from the photodetector signal generator 104. The oximeter processing system 108 also generates a signal that can cause the information transmission component 310 to transmit information to be processed by the oximeter processing system. The oximeter processing system 108 includes two sets of switches 312, 314 which are connected to either an LED drive for causing the LEDs 302, 304 to generate light or a ground to allow no current to flow. The oximeter processing system 108 also includes a filter 316 for processing the signal from the photodetector 306, which is further transmitted to a

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

microprocessor (not shown) for determining the arterial oxygen saturation of the medium 102. One skilled in the relevant art will appreciate that these components are well known for use in the function of pulse oximeters and will not be described in greater detail. The oximeter processing system 108 further includes an operational amplifier 318 [[an]] <u>and</u> two nodes 320, 322 that are utilized to sense current that is flowing through the LEDs 302, 304. The two nodes 320, 322 will also be utilized to provide a power source to the information transmission component 310 and to read the information transmitted from the information transmission component, as will be explained in greater detail below. As illustrated in FIGURE 3, node 320 may include an additional resistor connected in series.

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CHRISTENSEN O'CONNOR JOHNSON KINDNESS[PLLC]
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100